Planktic foraminifers and hydrography of the eastern and northern Caribbean Sea

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Résumé en anglais	The distribution of living planktic foraminifers and their relation to the hydrography of the Caribbean Sea was investigated in plankton net tows and surface sediment samples taken along the Antilles island arc during April/May 1996. The planktic foraminiferal community was strongly influenced by spatial variations in salinity that were largely due to the influx of Orinoco River water into the southeastern Caribbean Sea and inflowing Sargasso Sea water in the north. Along the Antilles island arc, Globigerinoides ruber was the dominant species in the surface waters throughout. In the southeastern Caribbean Sea, where Orinoco River outflow influences the planktic community, standing stocks of planktic foraminifers (>100 μm) between 4 and 50 specimens m−3 were medium to low. The southeastern faunas between Tobago and Guadeloupe were characterized by increased proportions of Neogloboquadrina dutertrei. Highest standing stocks of 159 specimens m−3 in the upper 20 m of the water column were recorded in the northeastern Caribbean Sea and the assemblages were characterized by high proportions of Globigerinita glutinata, associated with cyclonic eddies. In the Anegada Passage, where Sargasso Sea water flows into the Caribbean Sea, low standing stocks of 18 specimens m−3 indicate oligotrophic conditions. Together with the oligotrophic surface waters, the Subtropical Underwater enters the Caribbean Sea through the Anegada Passage in water depths between 100 and 300 m. These waters are characterized by higher concentrations of Globorotalia truncatulinoides relative to the adjacent water masses. Comparison of the living planktic foraminiferal fauna with empty test assemblages from the water column and from surface sediments shows that differences in the faunal composition mostly correspond to the distribution of water masses and to the differential dissolution of species. In the vicinity of islands Globigerinoides ruber reaches higher relative frequencies than in the open ocean, pointing towards a higher tolerance of this species towards neritic conditions than in other species.
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